

**Capital's Development into Conscious
Revolutionary Action**

Critique of Scientific Theory

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Capital's Development into Conscious Revolutionary Action Critique of Scientific Theory *

Juan Iñigo Carrera

The construction of the community of the freely, i.e., consciously, associated individuals is the most genuine critique of the present social organization. Does critical scientific theory, the scientific theory that sees itself as the direct expression of free consciousness vis à vis the general alienation of consciousness in capitalism, appear today living up to this social necessity?

Since that construction can only take shape in the development by each individual of the complete cognition of his/her own real necessity, it annihilates by itself any utopia. Likewise, it annihilates by itself the alienated forms in which the autonomous regulation of the process of social metabolism through the production of value takes shape. It thus annihilates the apparent individual independence as the form of the general social interdependency, to begin with; and, therefore, it is about the annihilation of moral and justice. Still, if the redemption of utopias and the conceiving of moral and justice as the foundations of the necessity of social transformation have a champion today, critical scientific theory is it. At the same time, critical scientific theory has not ceased to externally relate the general regulation of the process of social metabolism - i. e., the general social relation - with the concrete forms through which this regulation realizes itself. Only on this basis, it can go on uncritically representing the social regulation that takes shape in the national accumulation process of the capital that is a wholly collective property within this national ambit (and therefore, as much capital for the whole of the working class, and as much private capital, for the working class of the rest of the national ambits, as any other) as the realized supersession of capital, i.e., realized socialism or communism. Or, seen the other way round, only on this basis, critical theory can go on representing the brutal forms of the alienation of human potencies as capital's potencies in which this process takes shape, as abstract deviations, treason, bureaucratization, external constraints, lack of democracy, authoritarian vices, etc., of socialism in its realization.

Still, what other answers can we expect from critical scientific theory to the renewed demand for a conscious revolutionary action? Let us consider one that is particularly eloquent: 'Philosophers neither interpret nor change the world; science, whose cognitive autonomy philosophy is charged with protecting, does the former in order that the latter may one day be possible.' This is the way in which 'it is now ... necessary to emend' Marx's 11th thesis on Feuerbach, according to M. Sprinker¹. Most, not to say all, Marxists will certainly agree that this 'emendation' is an attempt to emphasize the critical aim of the statement with which Marx gave way to his scientific discovery of the specificity of present-day society. Some Marxists will certainly object the appeal to philosophy or the frailty of the 'may one day be possible.' Yet, at worst, they will take Sprinker's emendation just as an unhappy attempt to rephrase Marx's thesis; never as an attempt to alter its core. For, Marxism unanimously assumes as being self-evident that the problem with philosophers is not that they

* This is a synopsis of the book I am working on. See Appendix for its scheme. Its first chapter, *Dialectical cognition; i.e., the regulation of action under the form of reproduction of self-necessity by thought*, has been published by the *Centro para la Investigación como Crítica Práctica* (Center for Research as Practical Criticism).

¹ Sprinker, Michael 'The Royal Road: Marxism and the Philosophy of Science', *New Left Review*, 191, January/February, 1992.

interpret the world, but that they do not take action once they have achieved this interpretation. Moreover, Marxism has always postulated that the point is to scientifically interpret the world to face immediately after, on the basis of this interpretation, its conscious transformation. Still, is it the point? What change are we talking about?

Green is the tree of life

Above all, life is a process of metabolism, the process where a subject appropriates its environment to produce itself. As such, the living subject carries in itself the capacity for regulating its process of metabolism. That is to say, it is able to cognize the potentiality of its own action and of its environment, so as to control the self-consumption it must undergo in the process of producing itself. Undoubtedly, a long way runs from the capacity for, and form of, regulating itself inherent in a DNA molecule to those inherent in the most developed animal species. Nevertheless, all of these living forms center their capacity for transforming their environment from alien to a medium for themselves and, specially, their capacity for advancing in this transformation, in their capacity for transforming themselves, in their capacity for mutating their own bodies adapting them to the environment. By developing its capacity for transforming the environment into a medium for itself, not mainly by mutating its own body to adapt it to the environment, but by transforming the environment itself, a specific animal form turns itself into the generic human being. In other words, to be generically human imports the capacity for producing one's own means of living and, consequently, the capacity for producing the means of production of these means of living. The cognition of one's own potentiality with respect to the medium's potentiality, i.e., the regulation of the human process of metabolism, extends in a generically correspondent way the degree of foresight it needs to reach.

Human life is a process of social metabolism. Still, this process has no way of realizing itself other than in the process of metabolism of human individuals. Since it is a process of social metabolism that has the individual process of metabolism as the necessary form of realizing itself, the regulation of the former process is the organic unit of the latter ones. In other words, the regulation of the process of social metabolism realizes itself as the social relation among its members; it is the social tissue, so to speak. Since it is itself a concrete form of that collective process, this regulation is necessarily shaped in the action of each of its members. As it happens with any regulation of this kind, the regulation of this process takes shape, above all, in the cognition by each individual of the point reached by the unfolding of his/her process of metabolism and of the corresponding processes of the other individuals that interact with him/her. This cognition is thus the way in which each individual integrates the flowing of the corresponding portions of her/his individual process of metabolism with those of the rest. Naturally, the process of cognition is developed by each individual as a moment of his/her own process of individual metabolism.

The regulation of the human process of social metabolism, the general social relation among human beings, has the purely animal immediate cognition as its historical starting point. At least according to its length, the greatest part of human history up to today is the history of the transformation of this animal relation into the regulation by means of the cognition of the point reached by each individual process of metabolism through direct personal relations. Obviously, human cognition by means of ideas develops along this transformation as rudimentary forms as rudimentary is the complexity of the process of social metabolism that it regulates and, hence, which produces it.

Still, however much human cognition by means of thought might have been developed and however little somebody might know concerning the historical specificity that determines the current form of the human process of social metabolism, nobody would claim cognition is the general regulator of this process today. In other words, it is obvious that our general social relation - the allocation of society's total labor-power among its different concrete forms and the coordination of the individual process of metabolism - does not take shape through the process of cognition of the social necessities.

The absence of a general coordination through cognition in the allocation and development of social labor determines individuals as private independent producers. Insofar as purely such, they have no way to get into relation by themselves to incarnate the process of social metabolism. To begin with, these producers do not retain any general social relation other than that of being individual personifications of society's total capacity for performing productive labor. This total labor-power is, as such, the capacity for performing human labor in general. The realization of this capacity under the mass of its different concrete forms is, thus, the development of the general social relation among the private independent producers.

The human process of social metabolism goes into motion by itself. It does so carrying the cooperation among its members beyond their capacity for - mutually recognizing each other in the development of their respective individual process of metabolism - directly coordinating these processes as moments of the process of social metabolism. The process in question determines itself as the autonomously regulated human process of social metabolism; that is to say, the process in which society allocates its total labor-power among the different concrete modalities of labor by representing the socially necessary abstract labor embodied in the products of the concrete labors carried out by the independent private producers, as the capacity of these products for relating among themselves in exchange. The general social relation that rules the process of metabolism that is able to produce its own medium takes the form of *commodities*; and the socially necessary abstract labor in that way represented, becomes *the value* of commodities. In commodity production, material production produces, at the same time, the general social relation. The private producers lack any direct general social relationship among themselves. They must act, and consequently see themselves, as being mutually independent. They come to face their general social interdependency only through the mediation of their material products. Therefore, this relation appears to them as an attribute inherent in the material form itself of these products, as a fetishistic social relation.

Commodities develop themselves insofar as the concrete unit of their natural form, use-value, and their specific social form, their value-form. In this development, the exchangeability of commodities negates itself as simply such, to affirm itself as the direct exchangeability only of the commodity that all of them detach as their general equivalent, money. From here on, commodity production realizes its necessity by taking the production of this general representative of value, the production of the general social relation in its substantive manifestation, as its general object.

Social production as a production of value transcends itself, realizing its necessity by producing more value by means of value itself, by transforming money into capital. As an accumulation of means of production and means of subsistence for the laborers that opens its productive metamorphosis, capital submits living labor to its necessity of valorizing itself. This is no longer a production of use values regulated by the condition of these as values. It is not even a production of use values which is only a means for the production of substantive value. This is a production of value in itself that yields as its result the production of use values and, hence, of human beings. This happens to the extent of determining as productive,

no longer the labor that transforms the environment into a means for itself, not even the one that produces value, but only the labor that produces surplus-value. Capital, materialized labor and, as such, a means for the human process of social metabolism, has taken possession of the generic potentialities of this process. Capital thus presents itself as the alienated incarnation of the generic human being. The product of social labor, a material product that is at the same time the materialized form of the general social relation, has transformed itself into the concrete social subject. From being a formally fetishistic material form, this product thus faces its own producers as the one which produces them, as a real fetish, so to speak.

Whether they like such an alienation of their generically human potencies or not, the bourgeoisie and the proletariat cannot but personify these potencies which now belong to capital. Capital is itself the one that produces and reproduces human beings giving them the concrete forms of the bourgeoisie and the proletariat, on realizing its necessity as a process of simple valorization by transcending into the reproduction of this process. The simple reproduction of capital develops into the process of capital accumulation. Relative surplus-value affirms itself as the general concrete form of this process. As such, its simple form (the increase of labor's productivity in the spheres that directly or indirectly produce the means of subsistence for the wage-laborers) becomes a double determination to the transcendence of the process of capital accumulation from being simply itself.

Above all, the reproduction of the increment in the productivity of labor takes its general concrete form in the increased concentration of the masses of capital individually put into action. And this concentration clashes against private property of capital; not just with particularly restricted forms of this property, but with it in itself. In turn, the reproduction of the increase in the productivity of labor takes its equally general concrete form in the submission of all aspects of production to science; the reproduction of the simple increase of relative surplus value, in the same submission concerning consumption. From which, capital, our specific social relation, carries in itself the necessity of annihilating its historical concrete base, as well as its historical reason of existence; that is, private property in general, as well as the insufficient development of human capacity for consciously ruling its process of social metabolism. In brief, capital carries in itself the necessity to annihilate itself, as its own potency. Since it is empty of any immediate necessity other than the purely quantitative of increasing its own value, capital cannot find a qualitative limit to its valorization process inside itself. It cannot find this limit even in its own impotence as a concrete form of the human process of social metabolism that emerges from the negation of the potencies of the conscious regulation of this process. Hence, from its very root, capital carries in itself the necessity of acquiring the most brutal forms in the exploitation of human labor to satisfy its insatiable hunger of surplus-value. Still, from here, its specific historical potency to drive itself beyond its own limits also arises.

As capital accumulation advances in the concentration of the scale of individual capital and the scientific organization of production and consumption, it transcends the narrow base of private property, already in what this directly personifies in the bourgeoisie the general organization of that process. Capital thereby deprives the bourgeoisie of its historical *right* to exist. At the same time, it determines the very working class from whose surplus-labor it feeds itself, with the mediation of developing it as a collective laborer, as its own general personification. This personification does no longer enclose in itself limitations to its condition as such. Therefore, it is the most genuine concrete form of the process of capital accumulation. And, as such concrete form, it is the working class who carries in itself the necessity of personifying the annihilation of capital. This annihilation is, in itself, that of social classes. It is the annihilation of the bourgeoisie, straightway; no wonder why the

bourgeoisie resists it with tooth and nail. But, in this same annihilation, the working class realizes its own necessity, negating itself absolutely as such, certainly, to affirm its potencies as the human potencies of the freely associated individuals; that is to say, of the concrete subjects of the human process of social metabolism that consciously regulate this process on cognizing, each of them, their own determination as such subjects. It is about the supersession of capitalism in the third main step in the historical development of human society, i.e., realized socialism or communism. However alienated in capital this revolutionary potency may be, or better stated, precisely for being such alienated potency, it shows itself as the working class' own potency. And, as the point is the general organization of the process of capital accumulation, the production of the present general social relation, it shows itself as a potency that has the political revolutionary action of the working class as its general concrete form of realizing itself.

Gray is the theory ...

Since its birth, scientific theory has not ceased to increase its potency to transform reality. We can see it today advancing through a renewed deep revision of itself. Once again, it is multiplying its transforming capacity over real forms that were beyond the scope of human conscious action. Apparently, its development has no limit other than the conscious control over all the processes that concern human life. Therefore, scientific theory apparently is the form that the conscious regulation of the human process of social metabolism necessarily takes. Yet, scientific theory itself has already discovered that it moves in quicksand.

As any scientific theorist can tell us, a scientific theory is, above all, a *representation* of reality in thought, by means of ideas. As such representation, all scientific theories result from a constructive process carried out in thought, following a necessity inherent to this process itself, i.e., a *logic*. Theory takes the chaotic mass of real forms that present themselves to analysis and represents these forms by placing them in the general relation dictated by logic. Beyond this point, the complete agreement among theorists breaks off. Today, most of them consider that representation must follow, given the nature of its object, a *formal* logic. Formal logic (even as fuzzy logic) conceives real determination - i.e., transformation - as an abstract immediate affirmation. Confronting this main-stream conception, critical theorists appeal with no less strength to *dialectical* logic. Dialectical logic represents real movement by the interpenetrating, by the antagonism (simple or over-determined), the relative autonomy, of opposites.

Theorists do not agree either concerning how theories take shape in scientists' minds. For some, a theory results from a careful observational process upon reality. For others, it bursts from the sole scientist's mind. And there are those who consider that a theory can only truly arise in a direct relation with practice.

Regardless of the differences theoreticians may have concerning logic's form or the source of their theoretical production, their initial coincidence is wholly reestablished as soon as they complete their constructive courses. They all start from the conviction that scientific cognition naturally takes form in the formulation of theories. Now, once they are formulated, theories immediately appear to them as what they are: as mental constructions that do not carry in themselves any real necessity other than the necessity imposed by their logical coherence. Thus, theories cannot go beyond being the formulation of hypothesis about the reality that exists in potency. Strictly followed, the method itself of theoretical cognition makes evident by itself the irreducible externality of its product, the ideal representation of

real concatenations, with respect to these ones' necessity. This evidence is the evidence of the equally irreducible externality between scientific theoretical cognition and scientific cognition's own generic aim (i.e., the regulation of the real appropriation of the means of human life, the regulation of action, under the form of an ideal appropriation of the necessity of this action).

Theories thus face their *moment of truth*. They must prove their correspondence with reality, if they are true or false. To formulate a theory is in itself to represent a real necessity as a *regularity* (even if this regularity is no other than the absence of regularity). From the viewpoint of scientific theory, the question is to reach the certainty about the presence of the hypothetically postulated regularity in the singular case upon which action is going to be taken. Let us assume that the hypothetically postulated determination has been verified by comparing the foreseen results with the real ones in all the cases of similar appearance taken into consideration. Nevertheless, this fact does not allow one to be logically certain about the unavoidable extension of the regularity to the singular case now faced. Therefore, theories cannot be verified previously to the action based upon them. Scientific theory seeks for the solution to this impasse by turning the problem upside down: although theories cannot be verified, at least their potential falsity can be proved. To do so, it suffices with finding one previous singular case from which the postulated relation has been absent. When this happens, the regularity of that relation with respect to the case now faced can be put into question. Still, this circumstance does not allow one to go any further concerning the original problem. Although one can establish the falsity of a hypothetical relation in each case submitted to proof, nothing logically allows one to be sure that this relation will not arise, from the new case at stake on. Still, above all, although it could free one from mistakenly believing that one knows reality, even the certitude concerning the falsity of a theory would leave one as lacking that positive cognition as one was.

In addition, the scope of scientific theory does not appear only limited by the relation of its results with reality. Gödel's theorem presents scientific theory as having a limit to its scope in its logic itself. Even in the specific field where the limitations to verification naturally do not come in, mathematics, scientific theory has already shown its frailty. If it tries to build mathematics by coherently following the development of formal logic, it arrives at Russell's insoluble paradox. If it tries to avoid this paradox by axiomatically ruling it away, it cannot even justify such a spurious procedure through its success: it ends up backfired by Skølem's and infinite regression paradoxes. At the same time, modern scientific theory represents the measure of the necessity which actually exists as a possibility that relates with itself in its realization, through chaos theory. In it, reality's nature itself apparently places an absolute limitation to the certainty of scientific cognition.

The theoretical stream that directly flows from modern Positivism accepts these limitations to the scope of scientific theory, that arise from the externality of the logical necessity with respect to the real necessity that is represented, beyond any doubt. It starts with Popper's self-complacent whining about 'rationally discussing' what cannot be 'rationally proved' to have any real content, goes on with Feyerabend's degraded 'everything goes,' and ends up with Rorty's open contentment. Post-Modern theory has its own existence determined by the social necessity to theoretically assert, as an absolute truth, the impotence of any scientific cognition to overcome theoretical incertitude. Yet, what alternatives offers us the scientific theory that sees itself as the genuine criticism of Positivism?

To begin with, we find the critical scientific theory that counts on overcoming the impotence of theory to reach the certainty concerning its truth thanks to the presumed superior self-consistency of its dialectical logic: while formal logic can only represent the

results of movement in general, dialectical logic represents this movement in itself. How does critical theory know this? Because it considers the form in which this movement manifests itself once and again as the unity of two opposite elements². Or because it thus acquires a greater range in its 'explanatory power,' in its ability to demonstrate the necessity of the observed phenomena³. In the first place, the self-consistency of logic does not add more content of reality to the theoretical hypothesis than that of being the product of a constructive course developed with a greater or lesser self-consistency. In the second place, not even a step has been given here towards the reason of the general real necessity, beyond its appearance of an abstract repetition. Or, even worst, the certainty concerning the content of reality of a theory is declared possible by appealing to an absurd sort of inversion of the proof: the point is no longer to demonstrate the theoretical necessity in reality, but the necessity of reality through logic. In both cases, the necessity of contrasting the result theoretically predicted against reality remains untouched. In fact, all the question has come down to contrasting the representation's most abstract form, its logic, with the concrete real forms. This attempt to overcome the limitations to the reach of scientific theory does nothing but to renew them.

Critical scientific theory steps backwards. It now accepts that verifying its results is only possible as the foresight of main tendencies⁴. Still, it happens that these tendencies have no way of realizing themselves other than in concrete human action. And the action that realizes a tendency can appear as its very negation, inasmuch as the inverse relation may be possible. Let us recall that, 'all science would be superfluous if the form of appearance and the essence of things immediately coincided.'⁵ Thus, the nebulous field that goes from the tendencies that are presumably known to the necessity of the concrete action that realizes them, is consecrated as the kingdom of opportunism, by the critical scientific theory itself.

Critical scientific theory seeks for the solution inside the theoretical procedure itself. It tries to solve the question of the certainty concerning the reality of theories through the immanent critique of theoretical developments⁶. Still, to be such, this immanent critique must follow the logical necessity even more rigorously than the criticized development. Therefore, deep as it may go into a theory, this immanent critique has no way of overcoming the externality of the logical necessity with respect to the real necessity.

Critical scientific theory does not know if its own impotency must horrify or fascinate it. In both cases it goes on by considering itself free from the hopeless problem of verification. In the first case, because it has decided that its truth criteria reside in its moral foundations, in the elevated aims that guide it⁷. That is to say, it presents itself necessarily constructed on the basis of a philosophy. We come thus face to face with the ideological negation of scientific cognition, i.e., philosophy, placed as the necessary departing point of the scientific cognition

² Joja, Athanase *La Lógica Dialéctica y las Ciencias* Buenos Aires: Juárez Editor, 1969. Lefevre, Henri *Logique formelle, logique dialectique* Paris: Editions Anthropos, 1969.

³ Bhaskar, Roy *Reclaiming Reality* London: Verso, 1989. Parekh, Bhikhu *Marx's Theory of Ideology* Baltimore: The Johns Hopkins University Press, 1982. Smith, Tony *The Logic of Marx's Capital* Albany: State University of New York Press, 1990.

⁴ Bhaskar, Roy *Reclaiming ...*, op. cit..

⁵ Marx, Karl *Das Kapital*, Vol. III, Frankfurt: Ullstein Verlag, 1980.

⁶ Adorno, Theodor *Negative Dialectics* London: Routledge & Kegan Paul, 1973. Gunn, Richard 'In Defense of a Consensus Theory of Truth', *Common Sense*, 7, 1989.

⁷ Gramsci, Antonio *Quaderni del Carcere I-IV* Torino: Einaudi, 1975. Habermas, Jürgen 'Teoría analítica de la ciencia y la dialéctica' *La Lógica de las Ciencias Sociales* México: Grijalbo, 1978. Kolakowski, Leszek 'Karl Marx and the Classical Definition of Truth', *Marxism and Beyond* London: Pall Mall, 1969. Korsch, Karl *Marxism and Philosophy* London: New Left, 1970. Murray, Patrick *Marx's Theory of Scientific Knowledge* New Jersey: Humanities Press, 1988.

of reality. In the second case, this scientific theory directly declares any question concerning the truth or falsity of a theory to be meaningless. It starts by resolving that scientific cognition only deals with the mental forms through which it represents reality, but not with the real forms themselves. Hence, it declares eliminated by nature the necessity to confront the reality of the theoretical construction. From here on, it believes enough with declaring itself the working class' revolutionary doctrine, to sustain its cognitive superiority⁸. Thus, it can only end up by concluding that all which matters concerning a scientific theory is its usefulness towards promoting action⁹. What does not have to matter in the least to accept this complete emptying of scientific cognition, is that the action thus based can be anything but an action with cognition of cause. We are dealing with an action that sees itself having no other aims than those it abstractly ascribes to itself. Dressed this time as heuristics, ideology takes the place of scientific consciousness regarding the necessity of one's own action.

As a last resort, critical scientific theory vindicates practice itself as the instance that renders the verification of hypotheses possible¹⁰. Unfortunately, the realization of this verification presupposes the realization of the action. This position implies by itself that there was no way of knowing if the theory was true or false, in the very moment that the action was performed; that is, when cognition really matters. Likewise, this fact uncovers the vacuity of the attempt to overcome the impossibility of verification by alleging that scientific theories are not 'predictive' but 'explicative'¹¹. Thus pushed beyond any hope, critical scientific theory tries to conceal this fact attributing the potential of verification, not to each concrete singular practice but, to an abstract social practice. Theory is verified, we are told, in the historical development of the transformation of reality accomplished by society on its basis¹². Of course, any other ideological representation, e.g. religion, can make the same claim in its favor.

Reached this point, critical theory does not need to give even one further step to consecrate, together with the successors of Positivism and with Post-Modernism, the socially dominant representation as the possible scientific truth; and, hence, that only is scientific that which the referees of scientific community pronounce as such. Stated in 'critical' terms, that the course of certainty about scientific cognition runs through hermeneutically incarnating intersubjectivity, thanks to communicative action. Of the critical intention merely remains the assertion that, just as the restraints to theory apply to natural science, the limitation of social theory to cognize reality insofar as it exists as a potency will asymptotically reach its resolution under socialism¹³. Or, otherwise, it merely remains the assertion that the very necessity of scientific cognition concerning social forms will be extinguished in socialism, on representing the overcoming of alienated consciousness as the possibility of wholly cognizing these forms in an immediate way¹⁴; as if socialism were not the supersession of the form of social regulation which, in turn, has precisely emerged from the insufficiency of immediate cognition to carry out that regulation. Thus, in both cases, the alleged critique even surpasses

⁸ Althusser, Louis 'The object of *Capital*' in *Reading 'Capital'* edited by L. Althusser and E. Balibar, London: New Left, 1970.

⁹ Wolff, Richard and Resnik, Stephen *Economics: Marxian versus Neoclassical* Baltimore: The Johns Hopkins University Press, 1987.

¹⁰ Carchedi, Guglielmo *Class Analysis and Social Research* Oxford: Basil Blackwell, 1987. Negri, Antonio *Marx Beyond Marx: Lessons on the 'Grundrisse'* Massachusetts: Bergin and Garvy, 1984.. Thompson, E. P. 'The Poverty of Theory' *The Poverty of Theory & Other Essays* London: Merlin Press, 1981.

¹¹ Bhaskar, Roy *Reclaiming ...*, op. cit..

¹² Habermas, Jürgen 'Teoría ...', op. cit..

¹³ Gramsci, Antonio *Quaderni ...*, op. cit..

¹⁴ Cohen, Gerald *Karl Marx's Theory of History: A Defense* Oxford: Clarendon, 1978.

the modern successors of positivism when the time comes to elude the questions that today emerge in concrete practice from the non-verifiability of theories, by presenting these questions as matters of pure scholasticism.

In fact, not even the realization of an action solves the problem of the truth or falsity of a theory. The attempt to verify it at this point is not only inopportune late, but impossible. The concrete real forms - resulting from an action - that fall inside the scope of one's cognition without the mediation of the theory one wants to verify, may completely agree with the theoretically foreseen ones. Nevertheless, this agreement does not tell one anything concerning the correspondence between the real determinations that the concrete forms carry in themselves and the ones theoretically conceived. It suffices with recalling that, since scientific theory represents the generic necessity by regularity, it is impelled to give as the cause of phenomena the very form of them. Which theory concerning any voluntary action can resist falsification better, but that which presents human will as the determinant of this action? And if the "revolutionary or democratic will", the "will to advance or to dominate," etc., are quite haggard lately, it is only because the season of boasting by naming *rational choice* one's shortsightedness - but, rather, *irrational philistinism* - has arrived. Again, the abstract forms do not manifest themselves identically to themselves in their concrete forms.

However we face it, the point is that it is impossible to logically show the truth of scientific theories previously to action. Any action based upon them cognizes its own necessity only through the relations it establishes to represent the real forms. At best, this representation is based upon the discovery of the abstract determinations, by separating that which repeats itself from that which does not. At worst, it directly establishes relations between the abstract determinations according to the author's opinion. Whether we like it or not, scientific theories cannot go further than interpreting reality in different ways. They are ways of interpreting the world. However powerful an action based upon a theory may be to transform reality, it is in itself the negation of the action which thoroughly cognizes its own necessity beyond any appearance, insofar as it is based upon an interpretation. No wonder scientists themselves end up condemning scientific knowledge, as a consequence of its logical method itself, to the field of 'exhausted utopias', of hopeless 'emancipating grand narratives.' This happens to the extent that the belief that it must be taken for granted the ideological determination of all scientific cognition, currently passes for the most unquestionable historically conscious criticism of its present general form.

The historical nature of scientific theory

The contradiction is obvious. Any interpretation of a real determination is in itself the negation of the cognition of that determination that has gone beyond any appearance presented by it; the interpretation of one's own necessity is the negation of its complete cognition. As much as scientific cognition is condemned to interpretation, so is condemned to impossibility the general conscious regulation of social life through the cognition by each of its members of his/her determinations as such overcoming any appearance. In other words, as much as scientific theory is the final form of scientific cognition, so is socialism condemned to impossibility. Even the most blatant apologetic cretinism of capitalism has nothing else to ask for: from the lips of its true representatives, the very same scientific method declares that 'the end of history' has been reached, that 'the future is already here.' If one had Orwell's expressiveness, one could well say that when one looks from the scientist to the ideologist, and from the ideologist to the scientist, it already is impossible to say which is which. *The*

question of the form of scientific cognition confronts us as the question of the necessarily historical nature of scientific theory.

In the autonomously regulated system of social metabolism, individuals can only realize their social interdependence through their own independent behavior. Therefore, their social interdependence necessarily faces them as being external to their own necessity as abstractly independent individuals. To their own consciousness, abstract individual *will* seems to clash against the limits that the social interdependence externally opposes it. This determination, specifically inherent in a commodity-based society, immediately excludes the complete cognition of one's own necessity as the general form of consciousness in this society. The alienation of human potencies as potencies inherent in the materialized general social relation, commodities, acquires, in this exclusion, the form of an alienated consciousness. This apparent consciousness begins its specifically capitalist development by necessarily representing the extraction of surplus-product from wage labor without compensation, as an exchange of commodities where only equivalents are involved. The discovery of one's own necessity in any field is, by itself, the negation of this alienation in general.

Capital's necessity concerning scientific cognition faces a contradiction. To increase relative surplus-value, capital is compelled to submit all production and consumption to science. Nevertheless, insofar as scientific cognition is a concrete form of capital's simple necessity to valorize itself, science has no way of overcoming the alienation of human consciousness in capital. *Scientific theory is this contradiction solved.* Scientific theory represents real concatenations by taking the forms where the necessity is already realized - concrete forms - as if they were not, at the same time, forms that carry in themselves a necessity to be realized - abstract forms. It thus puts the real forms as being unable to move by themselves. From this point of view, only an external relation fits between them. It is here that *logic* comes in.

Placed as being incapable of moving by themselves, the real forms are represented as forms that affirm themselves through the appearance of being abstract immediate affirmations. This appearance really corresponds to the self-affirming by means of the negation of self-negation- i.e., to the real quantitative determination, abstractly considered. The logic of scientific theory is, by nature, the logic that genuinely belongs to mathematics. Of course, to be used to structure the representation of qualitatively different forms in general, it must be emptied of the specificity it gets from the specificity of its object, i.e., the specificity of the quantitative determination. Consequently, scientific theory represents it as *formal* logic. Based on this logic, it represents the real abstract determinations by the relations of measure of their concrete forms. This representation allows the conscious regulation of action upon real forms: although the real necessity at stake is not truly known, it is possible to act upon the magnitude of the real forms, transforming their quantity until making it correspond to that of a qualitatively different form, thus transforming their quality itself. The limits to the scope of this action become evident as soon as the form of its regulation is shown.

Dialectic materialist logic does nothing but to take the same abstract immediate affirmation as the simplest form of real affirmation. Its only specificity arises from representing each of these affirmations as necessarily being united to another one of its same nature, which appears to be opposed to it. That is to say, the simplest real determination, the self-affirming by means of self-negation, is represented as an external abstract relation between opposites. From which, the formulation of dialectical logic can only get to generically enunciate its specificity. Beyond this point, it has no substance left other than the one of the formal logic it carries in itself. So, when it attempts to face any concrete question it

immediately ends up reduced to this logic. Let us consider, for instance, G. Carchedi's development¹⁵, maybe the most elaborated among the many recent ones. Carchedi represents the forms to be determined as being 'contained' as potencies in the determinant ones. It thus appears to transcend the externality of formal logic. Nevertheless, this representation does nothing but to preserve this externality. On its basis, the necessity of facing the fact that the determinant forms are such for being themselves those potencies, is left aside. Next, Carchedi represents determination itself - i.e., the realization by the determinant forms of their necessity as potencies, thus determining themselves as concrete forms - as a 'system' of mutually related already realized forms. The determined forms have no place in this system as the concrete forms in which the determinants realize their necessity and, therefore, as these ones in their concrete existence itself. They only fit in the completely external relation of 'conditions' for the reproduction or supersession of the determinant forms. All the necessity that fits into each of these steps is the necessity of the logical representation of the real determination as an abstract immediate affirmation. To preserve this logical externality, Carchedi needs to reduce the method of inquiry to analysis. Hence, he considers the unfolding of the real necessity in thought as a mere resort for presentation. It is impossible to avoid recalling here with Marx that, 'It is, in fact, much easier to find by analysis the earthly core of religious mistiness than, conversely, from the real relations of life at each moment, to develop their celestial forms. The latter is the only materialistic and, therefore, scientific method.'¹⁶

Dialectical cognition; i.e., the regulation of action in its form of the reproduction of one's own necessity in thought

The critique of scientific theory has no way of taking shape in the formulation of a new logical paradigm. In other words, the critique of the current universally dominating science does not take shape in the construction of a new theory, but in the supersession of scientific theory itself. Thus, it is not about conceiving a new *representation of reality*, condemned by its sole condition as such representation to follow a constructive necessity alien to the real necessity, to follow a logic.

Which is the point then? Let us face the object of our cognition, reality. Outside the theoretical world, reality does not present itself to our minds as an abstract generality. It presents itself as a mass of concrete forms that we distinguish from each other as simply being such. Therefore, we start lacking any way to mentally appropriate the relation these forms have with ourselves, other than by taking them one by one. Whichever we take, it will face us as a potentiality, as a necessity to be realized (at least, in its temporal determination) when we look at it once isolated. There is nothing to wonder about. If real concrete forms are of any interest for us, let alone a nebulous abstractly contemplative one, it is because, as potencies, they can affect us on realizing themselves and, rather, because we can realize the potencies they are with our action.

To discover the selected concrete form as a potentiality, we have just put into action our capacity for immediate cognition. There was no need of any scientific cognition nor, *a fortiori*, of a theoretical cognition. Of course, we can try to realize the discovered potentiality right away with our action. Still we have no guide for this realization other than what the immediate appearance of that potentiality tells us about itself. And our immediate cognition

¹⁵ Carchedi, Guglielmo *Class ...*, *op. cit.*.

¹⁶ Marx, Karl *Das ...*, *op.cit.*, Vol. I.

also tells us that appearances often fool us. The point is to discover the reason, the necessity, of the real potentiality at stake.

However we look at it, the real potentiality we are attempting to cognize has nothing to add concerning its necessity, other than facing us with its appearance of being such potentiality. Nevertheless, our immediate cognition is still far from exhausting its capacity. The selected concrete form already appears as a potency to be realized, whose necessity is not reduced to this potency itself. On doing so, it tells us that we can only search for its necessity as a potency in what it has, not of an actual potentiality, but of a simple already realized actuality.

We thus face the selected real form as an actual existence that carries in itself a potentiality to be realized. To search in the real concrete form insofar as it is a simple actual existence, for the necessity of its existence as a pure potency, we must consider the former form of existence separated from the latter. It is about isolating the necessity from its form of manifesting itself. This is the last thing our immediate cognition has to tell us, since we can only accomplish this separation inside our thought. The time to begin with our scientific cognition of the real concrete form we are facing, has arrived.

Let us separate with our thought the necessity of the real concrete form from its form of manifesting itself. In other words, let us analyze the real concrete form. Thus separated, the necessity that was realized as an actual existence faces us as a potency to be realized, as the potentiality of determining the concrete form in which it is already realized. The real form cut out by our immediate perception thus faces us as a concrete form that is such for carrying in itself its own necessity of existence as a pure potency, i.e., its own abstract form. Since it is the necessity of existence of a real form, this abstract form can neither be more nor less real than its concrete one. In their pure reality, they only differ from each other by the modality in which they carry in themselves the same real necessity. The real necessity the abstract one has as the potency that determines it as such, is that which the concrete one has as its correspondingly determinant actual necessity.

Still, as such potentiality to be realized, the discovered abstract form cannot account for its own necessity either. It can only face us with its own necessity as the other-self that it carries in itself. Nothing is left for us, but to penetrate deeper by means of our thought into our starting real form. And we repeat this deepening, as many times as the abstract form consequently discovered shows to enclose inside itself its own necessity of existence as a pure potency. Therefore, our uninterrupted progress through the link thus defined is the only necessity that formally determines the course of our analytical process.

Let us consider a brief example. Since the point is to transform the world, let us take, from the mass of concrete forms that we start by facing, the form itself we are going to give our transforming action. What is to be done? Our transforming action tells us, thus, just by imposing this first step upon us, that it is not simply itself; that it is itself and at the same time a different thing: the very question of *what is to be done*. It makes us know, therefore, that it carries in itself a determination that is not reducible to it itself. And this is all our transforming action can tell us about itself in its immediateness, though we may face it and interrogate it once and again.

To continue forward with the realization of our action as an action whose regulation pertains to us, as a conscious action, there is nothing left for us but to confront the *what is it to be done* itself. In doing so, the *what is to be done* shows in such immediateness, as it itself and at the same time an other, the necessity of our action. After which, the *what is to be done* has nothing to add about itself, not being through what this necessity of our action can tell us regarding itself. Let us face, then, the necessity of our action. This necessity can only point

out that our transforming will is the other one that it carries in itself; the other one where its own necessity resides. Now, our transforming will can only tell us, concerning its own necessity, that we must search for it in that which our transforming will has of the working class' own transforming will. When we face the working class' will, it cannot give us immediate reason about itself, either. How could it, without forcing us to account for what it has of a simple class will, first? Nevertheless, the clash against the absence of immediateness with respect to self-necessity repeats itself: classes limit themselves to tell us that we must look for theirs, first of all, in what they carry in themselves of the reproduction of the process of capital accumulation.

Let us stop for a moment at this point in the development of our transforming action. So far, it has materialized itself in the search of the necessity of its concrete forms. As such, it has got to tell us that it carries in itself the transforming will of the working class. But it has equally got to tell us, that the will of the working class is not self-sufficient to account for its own necessity, that this necessity transcends it. With which, our transforming action has told us that, just as the transformation of the world takes in itself the working class' voluntary action, neither the concrete forms -and therefore, the working class' political organization - nor the transforming potency of this action, are simply born from the said will itself.

If we want to go on advancing in the realization of our conscious action there is, thus, no other way left for us now but to confront the reproduction of the process of capital accumulation. But, concerning its own necessity, this reproduction does nothing but to point us back to its content of the valorization process of capital. When we face this, it shows itself, insofar as a simple process of value valorization, enclosing a process of simple value production, a production process of commodities. And this process points again back to its material nature, to its content as a process of human life. To account for the necessity of this process, where the exchange between human beings and nature presents itself as a process of work, we need to look back into its necessity as a simple process of metabolism between a living being and its environment. The analysis of purely social forms has turned, in its own development, into the analysis of pure natural forms. Yet, the form of our analysis has not changed at all. We can only go on advancing it by questioning the, now natural, form we come to face for its own necessity, i.e., for the real abstract form it carries in itself as the one that determines it.

Since we are going on advancing over increasingly abstract forms of the determination, the time will come when we are not going to face necessity as the potentiality of this or that determined form any longer, but as the potentiality of determination itself: as much as our object is a determined concrete real form, determination itself is its abstract real form as much as any other. But it is not an ordinary abstract real form. As the rest, it starts by facing us as a concrete form. Still, insofar as such concrete form, it is a pure potential necessity, the necessity itself of being determined and, consequently, an abstract form. Its potential necessity is no longer an-other of its concrete form, but such potentiality is what this real abstract form is insofar as a concrete form. This simple real form has the necessity of its own existence as an immediate actual necessity, it is existence in itself. Still, as far as this actual existence the simple form has is the necessity of transcending from itself into realized determination, the simple form is, at the same time, potential existence. As such, simple existence, *matter*, is a contradiction in itself. Then, it has no way of affirming itself other than by realizing its potency as a determination to be realized, that is, by negating itself as such potency to affirm itself as a realized determination.

We are thus facing the simplest moment in which the necessity of the concrete real form we have originally selected and, consequently, of our action, unfolds itself. Now, since it

becomes the affirming of the simple form by means of its negation as such, the realized determination is the real reproduction of the necessity of self-affirming by means of self-negation. And as such it unfolds in the development of the progressively more concrete forms of our real object. Each of these concrete forms (which is such for actually existing as a realized necessity) is, precisely for that reason, an abstract form (which is such for actually existing as a necessity to be realized, as a potency). Thus, determination develops into the transformation of an existing form, on negating itself in its actuality insofar as an abstract one by affirming itself as a realized necessity, a new concrete form, whose actual existence is that of being its self-negation as such concrete form, by self-affirming as a necessity to be realized. When a form simply affirms itself by means of its own negation, its necessity reaches its term, acquiring a more developed shape both as an already realized and as an actual potency. The form determined by the original necessity thus transcends its quality, realizes its *qualitative* determination. The necessity that determines the new form as a potency has emerged purely and exclusively from the primitive one; hence, the new necessity is nothing but the realized form of the primitive one and therefore, it itself. However, as the negation of the negation, this potency is nonexistent for that primitive form in its abstract condition as such: it is just a potency inherent in its concrete forms. Do we have a better way to thoroughly cognize the qualitative potential of any given form, other than by reproducing with our thought the real necessity that has come to such form in its development, by ideally following this development?

At first, an abstract form exhausts its potency on becoming its corresponding concrete form. Still, as any other, the very form of realizing necessity undergoes its own development. Now, the abstract form is in itself not one but many different necessities to be realized. Moreover, these are potencies whose realized forms mutually exclude themselves as the same concrete form, potencies that exist together with their contraries. Such potencies do not have their actual existence in the abstract form as a simple power to be, but as a power to be that is, at the same time, a power not to be: as *possibility* or *contingency*. The abstract form exhausts its necessity only on becoming a diversity of concrete forms, each of them solving the mutual compatibility of those potencies as realized ones. Abstract forms thus determine themselves as *genus*; their concrete forms, as differentiated *species* in which the genus realizes its necessity.

Since it is a concrete form taken by determination, possibility itself develops into a necessity actually existing as a possible potency, that has the necessity of the very course of its realization determined as a possible potency. The determination of the species by the genus thus develops through the mediation of possibility as a specific form the realization of possibility itself takes.

As an already realized possibility, a species is completely impotent concerning the determination of its own possibility. From its viewpoint, the realization of necessity - *causality* - takes the form of *casualness*, of *accidentalness*, of the necessity that, at the same time, is no necessity whatsoever. Each species thus appears as the absolute materialization of the generic potencies that have directly determined it; and these potencies, as its circumstances or conditions. *Life* is the overcoming of species' impotence concerning their own determination as concrete modalities through which possibility is realized: it is the concrete form that has the potency for appropriating its own conditions and transforms them into concrete existences, thus determining itself as an abstract form. Life advances in its real potency by appropriating its conditions in their very virtuality. Life is thus determined as the transforming action that regulates itself through the *cognition* of its own necessity. Seen from the outside, just because it is completely determined as a necessary concrete form of matter,

human action can transform other forms of matter into forms for itself; and, therefore, can transform itself. And only because it finds itself thus determined, human action necessarily becomes, in the historical process, a *free* action: an action that integrally cognizes its own necessity.

As it is obvious, in a previous stage of the exposition we have unfolded what remains of our return to the increasingly concrete forms of the necessity of our conscious transforming action by reproducing it through the path of thought. This, and no other, is the necessity that makes the "tree of life green." At a certain point of that unfolding, we have left behind the field of pure natural forms. Thus, we have entered the specific field of the real forms in which a particular process of natural metabolism, that has ceased to be a specific form of animal existence to acquire a generic being (the capacity to produce its own means of living through work), organizes itself. That is, we have entered into the field of social forms. Yet, there was no way to go on advancing in our cognition other than by proceeding in the same way we were doing while we were dealing with simple natural forms. That is, by following in our thought the realization of the necessity that existed as a potency in the real abstract form we had reached already, through which this one transforms itself into a concrete one.

When we are going to ideally appropriate the necessity of our action, we face the object of this action as what it is for us in that moment: something external. We therefore face our object by its immediate exteriority. We overcome the appearance of this immediate exteriority upon advancing through the abstract forms of our object. The analysis inherent in scientific theory separates the abstract forms according to their degree of repetition. It thus stops at their exteriority. On the contrary, the analysis that is going to support the reproduction of the real necessity in thought separates the concrete form that we face, from the necessity that it carries in itself as the other-one whose realization determines it. That is, it takes shape in the discovering, inside the concrete form (and as such, realized necessity), of its abstract form (and as such, necessity to be realized). Given its form itself, this analysis cannot stop until it reaches the real form that does not carry in itself another one from which its necessity arises, but which is, by itself and not by another-self, necessity of negating itself as abstract existence to affirm itself as concrete existence. That is, until we face matter as simply such.

The return towards the concrete forms that comes after the analysis that has stopped in the externality of the abstract forms, unavoidably takes shape in the addition of the non-repeating, and consequently previously excluded forms, to the representation. This process has no other necessity to follow than the purely constructive one dictated by its logic. Hence, the inevitable externality of its result with regard to the real necessity that the action aims at realizing. On the contrary, the reproduction of reality in thought advances by following the development of the necessity that the simplest abstract form carries in itself. As soon as this abstract form realizes its necessity, i.e., it affirms itself as an abstract form, it negates itself as such abstract form to affirm itself as a realized necessity, i.e., as a concrete form. But this concrete form immediately negates itself as such, affirming itself as a form that carries in itself a necessity to be realized, i.e., as a new abstract form. We ideally follow, thus, our real object in its own development. This reproduction of the development of the real necessity by means of thought is unable to get to its end before reaching a form whose necessity exists only as a potency, and this potency has our transforming action - determined as an action that has needed to follow all this path to become a conscious action - as its necessary form of realizing itself. That is, it is unable to get to its end until our action can discover its own concrete form of conscious action, i.e., can discover itself, as the necessary concrete form of the realization of the real potencies at stake. Due to this form of its method, the ideal reproduction of reality is determined as *dialectical cognition*.

In brief, the point is *to virtually appropriate reality by reproducing its necessity through thought, the ideal reproduction of reality*. Hence, the development of scientific cognition as the regulation of the transformation of our present society into the one of the freely associated individuals is the *critique of scientific theory*.

Scientific theories arrive at the formulation of certain general laws, but anyone that has to deal with everyday practical matters knows that there is an abyss between these two. The justifications of the link between *the theoretical model, the theoretical framework* and *the concrete practice* cannot but resemble what Marx referred to as the dialectics of ‘on the one hand ... , on the other hand’ Given the way it proceeds, the ideal reproduction of reality needs to integrally unfold itself upon facing each singular action that is going to be realized. Each singular unfolding carries in itself the production of the general unfolding of dialectical cognition. Nevertheless, the existence of this general unfolding does not allow us any abridgment in the necessary singularity of the renewal of our dialectical cognition. The attempt to immediately relate the general necessity with the singular necessity at stake, can only take shape through the introduction of an external link between them, thus mutilating the twofold process that produces the ideal reproduction of the latter necessity. The existence of the general unfolding only allows us to unfold our cognition process in each singular occasion with the agility of being not just a process of purely original cognition, but a process of recognition in the corresponding part. Due to its very form, dialectical cognition submits to criticism the portion of itself developed up to that moment, in the concrete singularity of each of its renewals. It makes this portion account for its condition as an ideal reproduction of reality faced with the movement of the subject that concerns it. By the way, we can see that abstractly, and therefore externally considered in themselves, all that dialectical cognition gets from the practice based upon it, is a new real more developed concrete that it needs to face in the thus renewed satisfaction of its aims.

The ideal reproduction of reality is a product of the double process of analysis and synthesis, in its indissoluble unity. Nevertheless, it is only in its second phase that this process actually follows the unfolding of the real necessity of the object under consideration and, therefore, where its ideal reproduction in a strict sense, takes place. The exposition of this reproduction is consequently determined. Dialectical research cannot overlook any form pertinent to the development of the necessity of the concrete object that is going to be personified. The critical reading of the exposition of dialectical research unavoidably carries in itself the development of the research process itself by the reader, with the potency that this process acquires as it advances supported by the original research. The nature of this unity between the dialectical cognition already produced and its critical reading results in the independence of the exposition with respect to the necessity of strictly presenting each and all the ties discovered by research in the development of abstract forms into their concrete necessary forms. According to its specific aim, the exposition can thus be limited to fully unfold only the discovered ties that are essential for enhancing the critical reproduction of the research.

When we face the magnitude that the necessity of our action has, to cognize it as such, we have to deal with a real form in which the general self-affirming by means of self negation has developed into its specific form of self-affirming by means of the negation of self-negation. In other words, we have to deal with a real form in which the general necessity to become has acquired the specific form of the difference determined as indifference. Hence, we have relations to discover, but we cannot discover them by following their development with our thought. We can only discover the quantitative relations in a completely external way with respect to the unfolding of their own necessity as the abstract real forms they are.

Lacking a real necessity whose development it can ideally follow, our cognition process has to provide itself the necessity of its course; that is, a strictly constructive necessity. Inasmuch as we unfold the ideal *reproduction* of reality as a process of measuring, as mathematical cognition, it necessarily takes the form of an ideal *representation* of reality. Nevertheless, the nature itself of the object of this representation, where the content appears in its form by means of the negation of its own negation, overcomes any restriction to the validity of the logically represented relations. This happens to the extent that the process of recognition of an original demonstration may be accomplished by simply reproducing this demonstration, but also as the mere application of a previously demonstrated formula, that is., just by showing the relation as demonstrated.

Freed from the inversion due to its use as a representation of qualitative determination in general, logic directly reflects the specific quality of its object, quantitative determination. The logical relations do not appear now as representing attributes inherent to abstractly mental forms, to the truth or falsity of one's logical thoughts. These relations immediately show themselves as what they are: representations of the concrete forms of the real quantitative determination. The need to empty logic of the specificity of its object, forces the representation of *the number* by *the set* in the mathematics produced by scientific theory. Nevertheless, the set is the unity of continuity and discontinuity represented under its concrete form of the term of the unity between intensiveness and extensiveness. The development of the representation of the concrete forms that mediate between this unity and the true concrete form that is represented by the number, i.e., the identity of the unit and the multiplicity where the exteriority of the quantitative determination appears completely unfolded, is consequently inverted. It does not appear under its proper shape of a simple logical development, but as a representation of the magnitude of an abstract form by the relations of measure of its concrete forms, as *mathematical analysis*. Thus proceeds the universally dominant mathematics today. It starts with the representation of the number as a set (G. Frege), follows with the relations between *transfinite magnitudes* (G. Cantor), and ends up by representing the realization of the relation of the unit with itself in the degree of multiplicity as the *limit* of the change of the ratio between variables (K. Weierstrass). Hence, the development of dialectical cognition carries in itself the necessity to revolutionize scientific cognition even in the part in which this cognition keeps representation as its necessary form.

The apparent separation between cognition and practice stems from the nature of the historical stage of humanity's development in which the regulation of the process of social metabolism by means of thought - the specifically human regulation of the process of social metabolism - is alienated, turning itself into a concrete form of the autonomous regulation of this process by the production of value. Only in this historical stage can scientific cognition appear denying its true immediate condition as the necessary form taken by the regulation of conscious action. Moreover, scientific cognition can even appear as the very denying of action, as its abstract opposite, in other words, as theoretical cognition. In the very form of its method, that is, as *dialectical cognition*, the reproduction of one's own necessity by means of one's thought immediately shows itself excluding all appearance of externality in relation to the action that it sustains. It shows itself, therefore, as what it is: the regulation of such action, that is to say, a specific portion of this action and, consequently, this action itself. Scientific research thus overcomes all appearance of being the abstract opposite of practice, to affirm itself as *practical criticism*.

As a concrete form of social relations, the conscious regulation of the process of social metabolism under the form of the ideal reproduction of reality - dialectical cognition- is necessarily a task of the collective laborer cut off by the execution of the transformation of its

environment on the basis of this regulation itself. This collective laborer only affirms itself in its unity as such with respect to the process of the virtual appropriation of reality, in the development by each of its members of, at least, the whole reproduction of the necessity of the portion of the collective action that, as such member, it is for him/her to perform. Consequently, inside this collective laborer there is room for the differentiation between the partial moments in which the regulation and the, in a restricted sense, realization of the action are unfolded. Still, the separation between the regulation and the, in a restricted sense, realization of each of those partial moments (the separation between the cognition of the necessity of the action and the execution of the action itself) lacks any way of finding room inside the collective laborer. In brief, the action regulated under the form of dialectical cognition abolishes the separation between intellectual-labor and manual-labor. For the time being, this regulation of action is a necessary concrete form of capital. In turn, capital is the very negation of the consciously regulated process of social metabolism. Nevertheless, because of its very form, dialectical cognition carries in itself, as its own necessity, that necessity inherent in the process of social metabolism consciously regulated: the necessity of being the product of the freely associated individuals. In the development of the form of its process determining the necessary form of the social subject capable of realizing it, dialectical cognition makes evident, by its sole form, that it is only a potency of capital insofar as this one has its own annihilation through the development of the material conditions for the said conscious regulation, as its historical necessity. Only because it is thus determined by its specific form of ideal reproduction of reality as a class product, as the working class' science, scientific cognition frees itself from any ideological determination.

Marx's advance towards conscious revolutionary action; Marxism's retreat to ideology

Insofar as a simple regulation of the process of social metabolism through the valorization of value, capital does not find any limit to its development in the capacity of the reproduction of reality in thought for transforming nature into a means of human life. On the contrary; the complete development of this cognition is the realization itself of the conscious regulation of the process of social metabolism and, therefore, the overcoming of the limitations to that transformation of nature that arise from the necessary unconsciousness concerning the alienation of human potencies as capital's potencies. Still, it is also capital the one which carries in itself this necessity of annihilating itself. From which, the development of dialectical cognition as the necessary concrete form of realizing itself this capital's potency, unavoidably has to start by producing the consciousness of its own historical necessity; that is, by producing the consciousness of the specificity of the social forms that give birth to it. It is only upon recognizing itself in this, its own potentiality, that the ideal reproduction of reality is able to advance over the simply natural forms; and even, to face the cognition of its own concrete forms as such reproduction.

Karl Marx accomplished the original development of the ideal reproduction of the specificity of present-day process of social metabolism, of capitalism, until discovering its necessity to annihilate itself in the conscious regulation of the process of social metabolism. On doing so, he gave shape for the first time to the reproduction of a real necessity by means of thought. From Marx on, any process of cognition of this kind concerning social forms over which we need to act in a revolutionary manner is, in what is thus determined as its general part, a recognition process from the social point of view. Still, we can very well say that it is not about *reading Capital*; nor even about *studying* it. The point is to face capital's real forms

by ourselves to ideally reproduce them, with the potency we acquire by having at our disposition their ideal reproduction developed in *Capital*. Actually, the development by oneself of this task is the only critical way to recognize the original specificity of Marx's procedure concerning scientific method. Any other way implies an attempt to unfold the real necessity that is present here in a mode external to it; therefore, it implies to represent this necessity. Nonetheless, it is fitted here for us to go on a little further into the question.

Hegel already clearly pointed out the difference between representation, whose development obeys a necessity external to its object, and dialectical cognition, that follows the unfolding of the necessity immanent to this object¹⁷. Nevertheless, he was unable to avoid the appearance that it is about the necessity of the Idea itself,

While he develops the ideal reproduction of capital's necessity, Marx stresses the specificity of the method he has discovered, in his well known remarks on scientific procedure. For instance, it is worth repeating here the already quoted 'It is, in fact, much easier to find by analysis the earthly core of religious mistiness than, conversely, from the real relations of life at each moment, to develop their celestial forms. The latter is the only materialistic and, therefore, scientific method.' Of course, Marx's most famous comment on the matter is the so frequently quoted one where he directly describes his research method and defines its result as the reproduction of reality in thought: 'The concrete is concrete because it is the synthesis of multiple determinations, therefore, the unity of diversity. It appears in thought then, as a process of synthesis, as a result, not as a point of departure, although it is the true point of departure, and, therefore, as well, the point of departure of intuition and of representation. In the first path [the analysis], the sheer representation was condensed to abstract determination; in the second one, abstract determinations lead to the reproduction of the concrete by the path of thought.'¹⁸

Nevertheless, Marx does not get to develop the specific difference between this scientific cognition that ideally reproduces the real necessity and theoretical cognition, that only represents it. In other words, he does not get to face this ideal reproduction as the critique - the supersession - of scientific theory itself. This happens to the extent that he refers to his own scientific works and discoveries as being of a theoretical nature. Certainly, in Marx's time scientific theory had not yet got to unfold its ideological determination as an apologetics of capitalism, no longer for its potency but, for its lack of potency to transform nature in full cognition of cause; that is to say, scientific theory did not yet need to boast about its own limits to consecrate the impossibility of the conscious regulation of social life. Marx was then able to advance for the first time in the ideal reproduction of the real forms of capitalist society until discovering its historical character, without confronting the necessity of making explicit the specific difference between that reproduction and theoretical representation, inasmuch as this difference embodies in the form itself of one and the other cognition process. Still, the sole materialization of this advance violently pushes scientific theory towards the exhaustion of its capacity for self-criticism in the complacency with respect to its own impotence.

What does Marxism have to say about the specificity of the method discovered by Marx? We can hardly find a more expressive synthesis than Lenin's non less widely quoted assertion 'If Marx did not leave behind him a "Logic" (with a capital letter), he did leave the *logic* of

¹⁷ Hegel, G. W. F. *The Science of Logic* New Jersey: Humanities Press, 1969.

¹⁸ Marx, Karl 'Einleitung [zu der "Grundrissen der Kritik der politischen Ökonomie"]' *Marx/Engels Ausgewählte Werke*, Vol. II Berlin: Dietz Verlag, 1985.

Capital.¹⁹ Let us briefly unfold the point once more. Reality, matter, has the self-affirming by means of self-negation - the necessity of self-determining, contradiction - as its general form. Hence, each natural concrete form (and therefore, each natural form specifically developed as a social one) is the realized necessity of its abstract forms in their becoming, from the simplest one (matter as such), to one that negates itself as such concrete form (realized necessity) affirming itself as a potency (a necessity to be realized). Cognition is the way in which a subject regulates the realization of its own potency as the necessary concrete form of realizing a potency inherent in its environment, by appropriating these two potencies in their virtuality as purely such potencies. The subject of the cognition by means of ideas always starts by facing its object as something external to itself as such subject. Under its simplest form, this cognition reaches the necessity of the subject's own action just insofar as this one virtually manifests itself to the subject's mind as an immediate link between the mutual necessity of the subject and the object. Consequently, such form of cognition does not go beyond the very exteriority of the subject and of its object. It is determined, thus, as *immediate* ideal cognition. This cognition develops into cognition by means of thought when the subject goes beyond the immediate concrete forms to discover their necessity as realizations of their abstract forms. Nevertheless, on performing this advance, the subject comes up, first of all, against the exteriority of the abstract forms themselves; that is to say, the subject starts by ideally facing the abstract forms in what these forms have of realized necessity, under their appearance as purely concrete forms. From which, the appropriation of a real necessity in thought takes its most primitive specific form by ideally placing by itself in a causal relation the real forms (abstract and concrete ones) starting from the way they present themselves to it; that is, by mentally conceiving links among the real forms on the basis of their exteriority; and, therefore, independently from their necessity. Cognition becomes a mental construction that follows a causality alien to the real one: the ideal *representation* of reality. Logic is the scientific general form of this mental necessity. The appropriation in thought of the real forms in their virtuality transcends the exteriority of these forms by ideally accompanying them in the unfolding of their real necessity. In this way, scientific cognition mentally reproduces their real concatenations, thus taking the form of an ideal *reproduction* of reality. This cognition has no way of proceeding other than by making each real concrete form account for the necessity that it carries in itself as an already realized one, and each abstract real form, for the development of the necessity to be realized which it is.

Reality simply is the self-affirming by means of self-negation. Dialectical cognition, *dialectics*, is the method for virtually appropriating this contradiction that reality is, by following its development with our thought. Seen the other way round, dialectics does not belong in reality but in human cognition of reality; or, rather, it belongs in reality, in matter, in what this one takes its specific form of human cognition. This same condition applies to logic. Still, while the former can only take shape following the development of the necessity of a concrete real form, the latter necessarily has to take an autonomous incarnation as a condition for representing any concrete real form. Hence, any attempt to call the ideal reproduction of reality a logic, even runs into a formal impossibility: the absence of an independent body of ideal relations able to receive such a name. To pretend that logic remains effective in the ideal reproduction of reality, it is necessary to abstract it from its formal and historical determinations, turning it into a pure abstraction (just the same strategy needed to assume that the products of human labor have the form of commodities, or the means of production the form of capital, by nature). To avoid any confusion, we must not forget here

¹⁹ Lenin, V. I. 'Philosophical Notebooks' *Collected Works* vol. 38 Moscow: Foreign Languages Publishing House, 1961.

the formal specificity of mathematical cognition as a necessary moment in the reproduction of reality in thought: to cognize the quantum of the magnitude of a real necessity in itself, we must naturally follow a logical necessity, due to the actual specificity of quantity as the form of the self-affirming by means of the negation of self-negation.

The certainty about the need of a logic to appropriate reality in thought inevitably implies that the real forms are taken as if they were incapable of being the realization of their own necessity, as if life were to be insufflated to them by the cognition process itself. Representations, whether on an idealist or a materialist basis, cannot avoid carrying in themselves this appearance. Let us look at it a little closer. To assert the need of a logical necessity to apprehend in thought any real form means, by itself, to assert that this real form has no necessity of its own to be mentally followed: being there a real necessity, why should we appeal to a mental one instead of just following it through its development, with our thought? Hence, real forms appear as being unable to relate, to move, by themselves at the beginning of the representation process. But they emerge from this process overflowing with relations. Hegel just sticks to this appearance up to its end. He gives logic as its content, that is, as the content of the abstractly ideal necessity, the general form of the development in thought of the real necessity, placed not as the ideal reproduction of matter but as the development of the real necessity itself. Dialectics is thus inverted, appearing as the development of the Idea placed as the real subject that engenders matter. On doing so, Hegel pushed representation beyond its limits. The real necessity was laid there with its strength unchained, ready to be called into action. Naturally, standing dialectics on its feet after such inversion has nothing to do with entering 'matter' where Hegel writes 'idea' and vice versa.

Marx gives a first step in putting dialectics right side up by opposing to the claim of generality of Hegel's logic concept, 'the peculiar logic of the peculiar object'²⁰. 'The peculiar logic of the peculiar object' already excludes by itself the possibility for logic to take a general body as the ideal necessity that cognition must follow and, therefore, its possibility to exist by itself. And what can the 'the peculiar logic of the peculiar object' be, but the reflection in thought of the development of the real object's own specific necessity? Nevertheless, Marx still has not completely developed here the distinction between the ideally produced necessity, the logic, that is, the discursive reason, that takes the place of the real causality in the representation and this real causality itself. It happens that Marx has not gone yet beyond the boundaries of philosophy; so much so, that he still identifies the abolition of the proletariat with the realization of philosophy²¹. But, immediately after in the same year, 1844, Marx faces for the first time the economic determinations of capital as the alienated general social relation of present-day humanity. On doing it, he discovers for the first time in history the real necessity of philosophy as a concrete form of alienated consciousness and how Hegel has developed it to its end. Consequently, Marx does no longer criticizes logic for being a general ideal necessity that displaces a peculiar ideal necessity. He criticizes logic for being an ideal necessity itself that displaces the real necessity that has to be followed in thought to rule one's conscious transforming action. That is, he criticizes logic for its very essence as a discursive reason that represents the real reason in thought, as the necessary form in which alienated thought takes shape: 'In turn, the philosophical spirit is nothing but the alienated spirit of the world that thinks inside its self-alienation, that is, that captures itself in

²⁰ Marx, Karl 'Kritik des Hegelschen Staatsrechts' " *Marx/Engels Werke* Band II, Berlin: Dietz Verlag, 1965.

²¹ Marx, Karl 'Crítica de "La filosofía del derecho" de Hegel. Introducción' *Obras fundamentales de Marx y Engels* Vol. I, México: Fondo de Cultura Económica, 1982 ('Critique of Hegel's Philosophy of Right. Introduction').

an abstract way. *Logic* [the pure *speculative thought*] is the *money* of spirit, the speculative, the *thought-out value*, of man and of nature; its essence that has become completely indifferent to any real determination and which is, therefore, unreal; it is the alienated thought that hence abstracts from nature and the real man; the *abstract* thought.’²² A little later, in 1847, Marx develops the specific critique of dialectical logic, showing step by step how this ‘absolute method’ starts from categories (that is, from the ideal representation of the real forms) and unavoidably ends up by representing itself as the one who engenders the real forms (Hegel) or by succumbing to its own contradictions (Proudhon)²³.

Hegel’s inversion is embodied in the form itself of the process of cognition; it is embodied in the conception of this process as a logical one. In fact, to proclaim logic as an inescapable condition for scientific cognition is nothing but to consecrate the idealist inversion, that prioritizes a mental necessity over matter’s necessity. To say it once more, the question is not to give rise to a new logic, but to free science from it. Precisely what Marx has done. The claim for a logic in *Capital* is a contradiction in terms. This is something that Marx himself remarks in his comments on Wagner²⁴. And, by the way, for the same reason there is not a single invocation in Marx to a dialectical logic, nor to a logic in general, there is not to dialectical materialism, to historical materialism or to other such *categories* either, that can only be used to *conceive* the real materiality and the real history as the corresponding abstractions.

Nevertheless, according to Marxism everything comes down to inverting dialectics again just by turning into a common place the representation of its development accomplished by Marx as its opposite, as if it were the development of a *dialectical logic*. And it is thus that, by force of abstracting from the real form that is the object of cognition and from the form of the process of cognition, it ends up putting dialectics completely upside-down again, by representing the real necessity of the real object as the ‘inner logic’ of an abstract ideally ‘pure’ form of it²⁵.

Real relations are nothing else than the concrete forms the necessity of self-affirming through self-negation takes on realizing itself. There is no place for ‘external’ relations and, hence, for ‘internal’ relations, among real forms. Concrete forms are the realized forms of the necessity that determines their abstract forms as such, and therefore, this necessity in action through the concrete forms now taken by its potency. But theoretical representation starts by replacing the real necessity with a logical necessity. The necessity itself that determines each real form thus appears as being placed outside it. On which, abstract forms and their concrete forms, and these concrete forms among themselves, appear to be externally related to each other. Real relations, that is, determinations, appear in representation degraded to the category of external relations. The abstract form stands here and, alongside it, the concrete form stands there, with logic placing them into relation. Dialectical logic does it by taking them as the opposites that antagonize or interpenetrate each other, thus representing determination as the unity of these opposites. Of course, for a concrete form to oppose this way its own abstract form, it must be the realization of a necessity neither more nor less developed than the necessity that determines the latter. Therefore, the existence of the concrete form results thus

²² Marx, Karl ‘Pariser Manuskripte 1844’ *Texte zu Methode und Praxis*, II, Munich: Rowohlt’s Klassiker, 1966.

²³ Marx, Karl *The Poverty of Philosophy* New York: International Publishers, 1963.

²⁴ Marx, Karl ‘Notes on Adolph Wagner’ *Karl Marx: Texts on Method* Oxford: Basil Blackwell, 1975.

²⁵ Sekine, Thomas *The Dialectic of Capital* vol. 1, Tokyo: Yushindo Press, 1984; vol. 2, Tokyo: Toshindo Press, 1986.

represented as preceding its own determination. Since it stands on this basis, Marxism cannot avoid fluctuating from representing the superstructure as the mere reflection of the base²⁶, to representing the superstructure being the determinant itself of social organization²⁷. Or it makes one piece of the whole fluctuation, by asserting that the base determines the superstructure, but, in turn, the superstructure determines the base, but the base determines the superstructure in the last instance, but the superstructure has a relative autonomy with a dominant instance, until this string of enunciated determinations comes to an end by being named 'over-determination'²⁸. Still, what actually is to determine, in whichever instance? What is a relative autonomy? is it about the autonomy a dog tied by a chain has? (this is not a joke, but a real statement once published in *Capital & Class*). Marxism has no answer to these questions, beyond naming the jumping from the base to the superstructure, and from the superstructure to the base, a 'dialectical relation.' And not a single step towards unfolding the development itself of the real necessity is given by representing it as a matter of the base 'producing' the superstructure and the superstructure 'helping' the base²⁹ or of the mutual 'ensemble' of structures 'conditioning or limiting' action and action or strategy 'recursively reproducing or transforming' structures or society³⁰; or a matter of material productive forces having 'the primacy' over relations of production and actions being 'functional' to structures 'through human rationality'³¹, or of social being and social consciousness mediated by 'experience'³². No wonder all this ends up giving rise to the belief that, since everything determines everything and is determined by everything, conscious revolutionary action must give way to ideologically based action, that is, to its very negation³³.

The point is not to label 'internal', such irreducibly external relations as 'conditioning', 'limiting', 'primacy', 'functionality,' etc., as dialectical logic does³⁴. The point is to follow the real necessity in its development, to discover how the human material forces of production (through which the human process of social metabolism realizes its generic necessity of appropriating nature to produce itself) negate themselves as simply such to affirm themselves by realizing their potential necessity of regulating their own realization, specifying themselves under their concrete form of relations of production. For being thus determined, the relations of production negate themselves as such concrete forms, affirming themselves as a potential necessity that realizes itself (that is, that affirms itself by negating itself as such potency), specifying itself as the voluntary action of the individuals. In other words, the relations of production are the realized necessity of the material productive forces to regulate themselves that, as such, have the regulated realization of these forces in the voluntary action of the individuals, as their own potential necessity. And this voluntary action is the realized

²⁶ Lenin, V. I. "Materialism and Empirio-Criticism" *Collected Works* vol. 14 Moscow: Foreign Languages Publishing House, 1962.

²⁷ Poulantzas, Nicos *Political Power and Social Classes* London: New Left Books, 1973. Laclau, Ernesto *Politics and Ideology in Marxist Thought* London: New Left Books, 1977.

²⁸ Althusser, Louis *For Marx* London: Allen Lane, 1969.

²⁹ Plekhanov, G. V. 'In Defense of Materialism. The Development of the Monist View of History' *Selected Philosophical Works* London: Lawrence & Wishart, 1961. Stalin, J. V., 'Marxism and Linguistics' in *The Essential Stalin: Major Theoretical Writings* edited by B. Franklin, New York: Anchor, 1972.

³⁰ Bhaskar, Roy *Reclaiming ...*, *op. cit.*. Jessop, Bob 'Regulation Theory, Post-Fordism and the State: More than a Reply to Werner Bonefeld' in *Post-Fordism & Social Form* edited by W. Bonefeld and J. Holloway, London: Macmillan, 1991.

³¹ Cohen, Gerald *Karl Marx's Theory ...*, *op. cit.*.

³² Thompson, E. P. 'The Poverty', *op. cit.*.

³³ Wolff, Richard and Resnik, Stephen *Economics: Marxian ...*, *op. cit.*.

³⁴ Ollman, Bertell *Dialectical Investigations* New York: Routledge, 1993.

necessity of the relation of production that has the realization of the process of social metabolism through the processes of metabolism of the individuals, as its own potential necessity.

As far as the alienation of the generic human potencies impedes the regulation of the process of social metabolism to present itself as such to the individual's consciousness, the material productive forces and the specific form they take as relations of production on regulating themselves, negate themselves as simply such, to affirm themselves as the economic base of society. This base has as its potential necessity, that of regulating its own realization by specifying itself as the superstructure of the legal, political, etc. relations. In turn, this superstructure has as its own potential necessity, that of realizing itself in the voluntary action ruled by a consciousness limited to the appearances of its own necessity, that starts to be such by seeing itself, not as the expression of alienated consciousness, but as the expression of an abstractly free consciousness. In brief, the superstructure is the realized necessity of the material productive forces of society to regulate themselves through apparently conscious individual action and, therefore, this very forces in action.

The real necessity we have been following keeps the form of a simple potency along the abstract forms it takes in its development. This is what makes these abstract forms always appear as being coexistent with their concrete forms, when they are externally seen. Still, inside each step given by their metamorphosis, these simple necessities take the form of possibility and, moreover, of possibility mediated by possibility itself in its realization, as the necessary form of realizing themselves. This is what makes the concrete forms appear as being self-determined. Specially, it makes voluntary action appear as having no determination other than itself, when it is externally seen. And even, on giving a step forward into the field of representation, it makes voluntary action appear completely inverted as determining by itself the material productive forces of society, when it actually has the power to transform these forces because it is their most developed concrete form, that is, because it is determined by these forces insofar as a possible potency, as the necessary form they take to realize their own necessity. And it is on realizing this necessity that determines it as a possible potency, that human action historically becomes an action that rules itself by thoroughly cognizing the necessity that it realizes, that is, its own necessity, by reproducing it in thought: the free action through which the consciously regulated process of social metabolism takes concrete shape.

Nevertheless, Marxism cannot overcome the inversion of the real necessity in the logical representation without overcoming itself. Thus, R. Gunn³⁵ advances far enough in his critique of scientific theory as to realize that the clue is present in the difference between the abstract forms that have a purely mental necessity (which he represents as empirical abstractions) and the reflection in thought of the abstract real forms (represented as determined abstractions). Just one further step seems to remain for Gunn to discover that this difference must necessarily arise from an essential difference in the form itself of the cognition process from which each type of abstract form emerges. It is the difference that runs from constructing abstract forms through logical analysis, to analytically discovering the abstract forms by following the inverse course to the development of its real necessity; and, then, the difference that runs from mentally constructing concrete forms by placing the abstract forms in the relations determined by the same logic, to the reproduction in thought of the realization of the necessity of the abstract forms in their transformation into concrete ones. Still, to give this step and to discover capital as the concrete social subject in which all human potencies take

³⁵ Gunn, Richard 'Against Historical Materialism' *Open Marxism, Volume II, Theory and Practice* London: Pluto Press, 1992.

shape today, or in other words, to discover the necessity of human action in the wholeness of its present determination, are the same thing. Instead of making evident the form of the real necessity, thus closing any appearance of freedom as an abstract self-determination on discovering it as the cognition of the necessity of one's own determination³⁶, Gunn steps back. Not in vain he professes a Marxism that places what is the necessary concrete form of realizing the accumulation of capital, class struggle, as the cause of this accumulation³⁷. Had Gunn followed the development of the real necessity, he would have seen that there is no direct relation between two real forms other than being one the realization of the other's necessity; and that only for being such realization, it can be said that the former is the form of existence of the latter. Nevertheless, Gunn sticks to representation as the only form of scientific cognition. He thus conceives as irremediably external, the real relation of the genus with its species, i.e., the realization of its possible necessity by the abstract form, which thus affirms itself through its own negation becoming a concrete one. Once done this, he represents the concrete forms ('conjuncture') as a 'constellation' of abstract forms. This relation has nothing of an 'internal' one but its being presented as such by Gunn, as even its very name tells us about its externality. Of course, any form can be represented in this relation as the determinant of any other, and therefore, can be represented as the form of existence of any other. Hence, all real necessity ends up degraded to the question of deciding, from 'the indefinite range of what can be inferred from a contradiction', which ones are the 'pointfulness inferences', by resorting to interpretation. Remarkably close to where G. Carchedi arrives when he asserts that: 'In terms of concrete realization, determination means simply mutual interrelation.'³⁸

P. Murray, too, comes to face the difference between the abstract forms that have a purely mental necessity ('general abstractions') and the reflection in thought of the abstract real forms ('determined abstractions') as the clue to the scope of scientific cognition. Still, he cannot go beyond this point either, to face the development itself of the real necessity, and he draws back to the same hindrance of interpretation. Only that, instead of a class antagonism abstracted from its determinations, Murray ends up placing a scientific morality equally abstracted from its determinations, as the motive of conscious action³⁹.

Engels points out how Marx made clear he was not a Marxist. Considering what they call themselves, we must assume that Marxists can only see in Marx's assertion an expression of insincere modesty, or of his sense of humor, as Althusser wants to. It happens that, opposite to Marx, *they really are* Marxists. As its very name shows, *Marxism* is the conception of the *reproduction* in thought of the specificity of present-day society - originally developed by Marx - as a *representation* of this specificity; and, hence, the representation of dialectical cognition as a *conception of the world*, as a *system of thought*. In brief, it is the degradation of the integral cognition of one's own necessity to an *interpretation* of reality and, therefore, to an *ideology*. It is not surprising then, that even though Marxism is always willing to state the historical nature of capitalism and its concrete forms, the idea that scientific theory is one of these never crosses its mind. It happens that in scientific theory, ideology takes the form of its opposite, of scientific method.

³⁶ Engels, Friedrich 'Herrn Eugen Dührings Umwälzung der Wissenschaft ("Anti-Dühring")' *Marx/Engels Ausgewählte Werke*, Vol. V Berlin: Dietz Verlag, 1985.

³⁷ Bonefeld, Werner 'Social Constitution and the Form of the Capitalist State' *Open Marxism, Volume I, Dialectics and History* London: Pluto Press, 1992.

³⁸ Carchedi, Guglielmo *Class ...*, *op. cit.*.

³⁹ Murray, Patrick *Marx's ...*, *op. cit.*.

Thus, like any other scientific theory about present-day social forms, Marxism shows its own necessity insofar as a concrete form of alienated consciousness by representing itself as the abstract negation of alienated consciousness, as an abstractly free consciousness. But here it is where its dialectic materialist logic shows the *raison d'être* for its specificity, for representing the simplest real determination, the self-affirming through self-negation, as the unity of two immediate affirmations mutually opposed and, therefore, for representing the existence of the concrete forms as abstractly opposed to their own determination. Marxism does not represent itself just as an abstract free consciousness, but, by invoking dialectical logic, it represents itself as the abstract free consciousness placed by itself as the opposite pole of the consciousness alienated in capital. Marxism does not see itself as being the opposite of alienated consciousness for recognizing itself as a form of existence of capital; on the contrary, it sees itself as the absolute realized negation of capital, as a social form whose necessity is external to capital. From this point of view, capital's historically immanent necessity of annihilating itself in its own development, that determines the working class as the necessary personification of this annihilation, comes down to an action external to that development itself. And, consequently, the performer of this action comes down to an abstract opposite of capitalism that, at best, has its necessity related to this one's as its absolute realized negativity, to the working class that reacts in self-defense against capitalistic misery and oppression. With which, the revolutionary realization of socialism/communism does no longer appear as what it is, as the realization of the historical necessity of the general regulation of the present-day process of social metabolism (and therefore, as the ruling itself of this process in action), as the realization of the historically own necessity of today's general social relation. On the contrary, the working class' revolutionary action sees its necessity come down to the 'will to survive' or the 'libertarian spirit' themselves of the working class, to the 'moral superiority' of a system over the other, to the realization of 'social justice'; that is, sees its necessity come down to a collection of abstractions that cannot but ideologically reflect the alienation of human potencies as capital's potencies, but that are represented as being so naturally eternal that the society freed from all alienation could only be realized through them.

It is precisely through this seeing itself as being abstractly free, that this specific form of alienated consciousness realizes its necessity as a concrete form of the alienated consciousness that does but to affirm itself as such. On the contrary, it is about the conscious regulation of the working class' revolutionary action through which capital realizes its necessity of annihilating itself into the general conscious regulation of human life. Therefore, it is not about producing an abstractly free conscious action, but about the production of an alienated consciousness, indeed, but one that is only such insofar as it is the negation of the negation of free consciousness. Although the question immediately arises, only its statement corresponds here: which social necessity embodies in the inversion, unconditionally accepted today among apparently uncompromising critical scientists, of the ideal reproduction of capitalist society accomplished by Marx into a theoretical representation?

As Marx shows, the point is not to interpret the world. The point is that the transformation of the world in question is the development of the conscious regulation of the process of social metabolism, and, therefore, the supersession of interpretation itself. If we fill any urgency to paraphrase Marx's thesis, we can state it as 'Philosophers have only *interpreted* the world in different ways; as a necessary form of scientific cognition alienated in capital, scientific theory can only rule its transformation within the miserable limits of the appropriation of relative surplus value; the point is to *change* it beyond these limits.' Above

all, the scientific critique of scientific theory is the development of this conscious regulation, the development of the organicity of the working class' revolutionary action.

Buenos Aires, 1993

Appendix

Capital's Development into Conscious Revolutionary Action Critique of Scientific Theory (Scheme)

Juan Iñigo

I. Dialectical cognition

1. *Dialectical cognition, i.e., the regulation of action under its form of reproduction of one's own necessity in thought*: from the immediateness of action to the determination of its concrete subject (the development of necessity into its concrete form of freedom), the concrete forms of the ideal reproduction of reality (the method of dialectical cognition).

2. *Mathematical cognition, i.e., the cognition of the measure of one's own necessity*: the determination that negates itself as such (the self-affirming by means of the negation of self-negation) and the lack of a real necessity whose development is to be ideally reproduced; the concrete form of measuring the quantum of magnitude, i.e., the mathematical process of cognition: from the representation of quantitative relations as abstractly such (logic) to the representation of the measure of the real abstract forms by the relations of measure of their concrete forms.

3. *Critical history of the forms of mathematical representation, i.e., the development of mathematics as a formally historic process in itself*: the emptying of the specificity of quantitative determination in formal logic; the reintroduction of quantitative specificity as abstract extensiveness; the mutilation of the logical development of the relation between the unit and the multiplicity until they reach their identity in the number, with the following inversion of the representation of this development as mathematical analysis, abstract algebra and topological relations.

4. *Mathematics of time-space, i.e., the measure of one's own necessity specifically determined as the abstract self-reproduction of quantity*: the specific forms of time-space and their representation; critique of physics and its inverted determinations, where the forms in which phenomena manifest themselves are placed as their causal law.

II. The historical determination of dialectical cognition

5. *The development of matter into the generic human being*: the determination of matter as a general historical natural development, i.e., as universe; life: the regulation of the individual process of metabolism, the regulation of the simple process of social metabolism, from animal specificity to generic human being.

6. *The development of the generic human being into capital, i.e., the alienation of human potencies as capital's potencies*: the general regulation of the process of social metabolism by means of the ideal appropriation of reality; the autonomously regulated system of social metabolism; capital's historical potencies: towards the conscious regulation of the process of social metabolism.

7. *Consciousness as capital's potency, i.e., alienated consciousness*: the development of the commodity into mutual individual independence as a form of general social interdependence; the individual concrete form of social regulation; the incompatibility of capital with dialectical cognition as the general form of scientific cognition.

8. *Scientific theory, i.e., the science of capital insofar as it is purely determined by the appropriation of surplus-value*: the resolution of the contradiction between capital's necessity to submit all production and consumption to science and capital's necessity of alienated consciousness; the theoretical representation of reality by the relations of measure of its concrete forms; ideology in the form of the method of scientific cognition.

9. *Marxism, i.e., the conception of the reproduction in thought of the specificity of present-day society, originally developed by Marx, as a representation of this specificity and, therefore, as a conception of the world, a system of thought*: its historical necessity and its concrete forms.

III. Scientific cognition as a necessary concrete form of revolutionary action

10. *Conscious revolutionary action as the negation of the negation of free action*: the political organization of the working class and the unfolding of scientific cognition.